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CANADIANA



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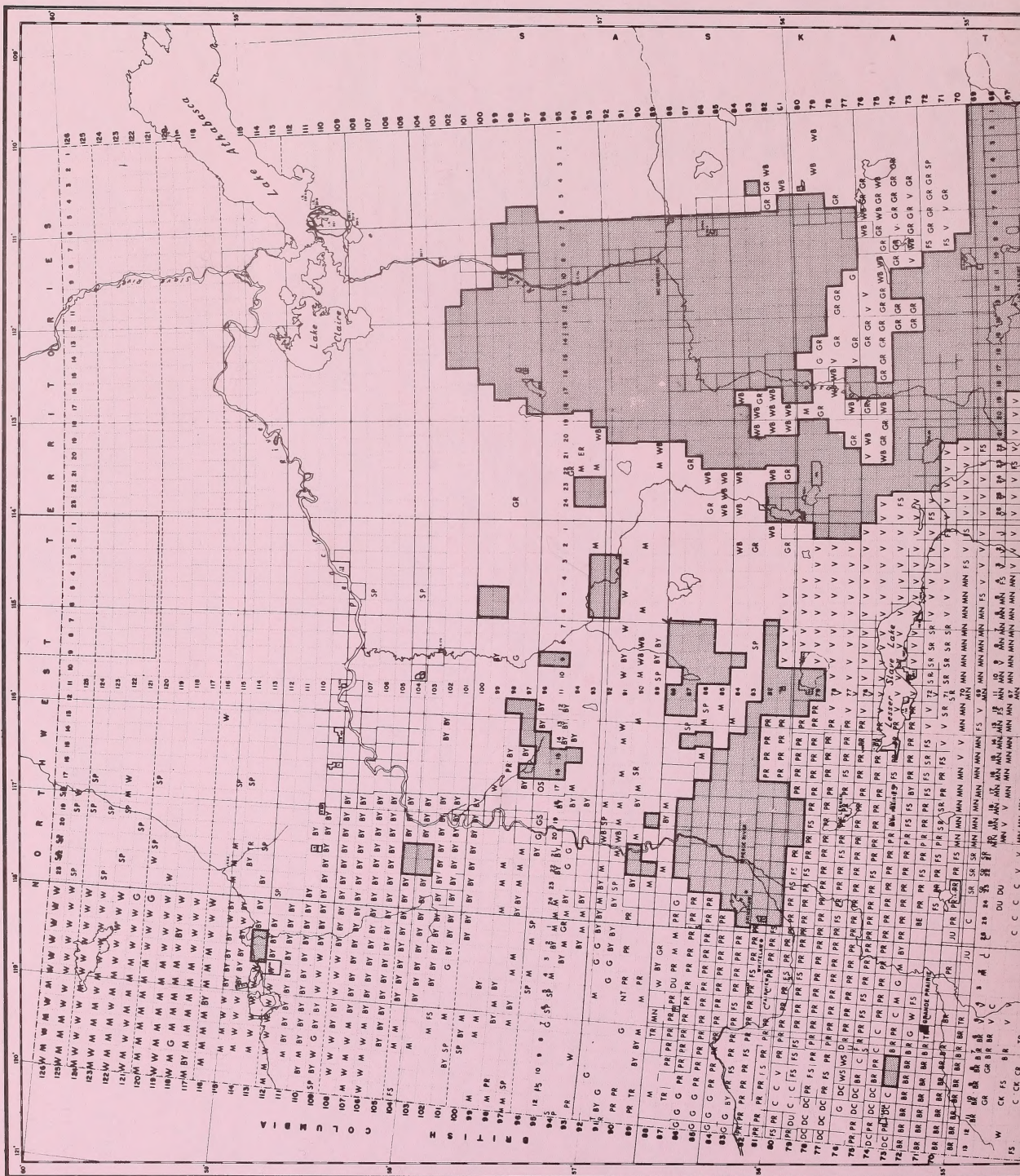
# Casing Cementing

## Minimum Requirements

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February 1984











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## CEMENTING REQUIREMENTS

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The licensee is responsible for the satisfactory cementing of casing, as required by the Oil and Gas Conservation Regulations. These requirements are summarized below:

### 1 Conductor and Surface Casing

- a Casing shall be cemented, full length, by the circulation method unless waiver is obtained from the appropriate Board Area Office.
- b Fillers or additives, other than accelerators, that reduce the compressive strength shall not be used in the cement.

### 2 Production, Intermediate and Liner Casing

- a The cement top shall be determined as outlined on the enclosed map and table.
- b The required cement volume shall be based on hole-size measurements, taken from a calliper log, run over the section of hole to be cemented.
- c A minimum of 20 per cent excess cement shall be run.
- d The use of fillers and/or additives to the cement system is acceptable only if the compressive strength of the mixture is at least 3500 kPa after curing for 48 hours at the temperature of the uppermost potential hydrocarbon-bearing zone. Special cement blends that do not meet the compressive strength requirement must be approved by the Board.
- e The temperature of the zone referred to in Item d will be calculated using a surface temperature of 4.4° C and a 2.7° C/100 m temperature gradient.
- f In areas where cementing to surface is required the compressive strength requirement, outlined in Item d, will apply to at least 100 metres above the uppermost potential hydrocarbon-bearing zone. The remaining column of cement to surface is exempt.
- g Stage-cementing programs must be approved by a Board representative.
- h Liners shall be cemented full length.
- i During the cementing operation, flow returns shall be visually monitored. If cement returns are not obtained at surface when cementing full length, or if displaced drilling fluid returns indicate that the required cement top may not have been obtained, a cement top locating-log shall be run. The log and a proposed remedial cementing program shall be submitted to the Board.

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## RECOMMENDED CEMENTING PROCEDURES

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The Board recommends the following:

The licensee should provide a technical supervisor at the well during the casing cementing operations to ensure that good cementing practices, as described below, are followed.

- a The water used for cementing is of quality and temperature that will assure maximum compressive strength for the cement system being used.
- b The drilling fluid is properly conditioned, prior to cementing, to prevent channelling and to ensure that the well is dead.
- c An adequate volume of prewash fluid shall be run ahead of the cement.
- d The pumping rate should be sufficient to maintain the annular flow in the turbulent or upper laminar-flow region.
- e The casing should be reciprocated and/or rotated, prior to and during the cementing operation.
- f The casing should be adequately centralized. On surface casing, centralizers should be placed at the top and bottom and at 50-metre intervals. On intermediate and production casing, centralizers should be placed at the top and base of all productive formations and at 50-metre intervals to the required cement top.
- g Appropriately sized wall cleaners or scratchers should be run on intermediate casing, at the top and bottom of all productive formations.